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UNDERSTANDING THE TEXT IN THE CONTEXT OF NEURAL NETWORKS (ARCHETYPAL APPROACH)

Abstract. The peculiarities of the place and role of neural networks are considered in the article; the specificity of the existence of this process is correlated with their work. The nature, the principle of the neural network functioning, which is considered as a means of cognitive triangulation (localization) of the sense, laid in the text by means of pseudo-biological education, is represented. Archetypal nature of the sense of the text is asserted, which is proved by the nature of this phenomenon. Attention is focused on the fact that the study of the methods of training a neural network (pseudobiological education), positioned as a result of a biological foundation, becomes a sens of constructing a reading device, actually a self, conformable to the human self.

Keywords: archetype, sense, sense of text, neural networks, the work of neural networks, information, data processing.

ОСМИСЛЕННЯ ТЕКСТУ В КОНТЕКСТІ НЕЙРОННИХ МЕРЕЖ (АРХЕТИПНИЙ ПІДХІД)

Анотація. У статті розглянуто особливості місця й ролі нейронних мереж в осмисленні тексту; представлено специфіку побутування цього процесу співвідносно з їх роботою. Репрезентовано природу, принцип роботи нейронної мережі, яка розглядається як засіб когнітивної тріангуляції (локалізації) смислу, покладеного в тексті за посередництва псевдобіологічного утворення. Стверджується архетипічна природа смислу тексту, що доводиться суттю цього явища. Акцентується увага на тому, що вивчення способів навчання нейронної мережі (псевдобіологічного утворення), позиціонованого, як такого, що перебуває на біологічному підґрунті, стає засобом побудови пристрою для зчитування власне самості, співвідносною людському Я.

Ключові слова: смисл, смисл тексту, нейронні мережі, робота нейронних мереж, інформація, обробка інформації.

ОСМЫСЛЕНИЕ ТЕКСТА В КОНТЕКСТЕ НЕЙРОННЫХ СЕТЕЙ (АРХЕТИПИЧЕСКИЙ ПОДХОД)

Аннотация. В статье рассмотрены особенности места и роли нейронных сетей в осмыслении текста; представлена специфика бытования этого процесса соотносимо с их работой. Репрезентирована природа, принцип работы нейронной сети, которая рассматривается как средство когнитивной триангуляции (локализации) смысла, положенного в тексте посредством псевдобиологического образования. Утверждается архетипическая природа смысла текста, что доказывается сутью этого явления. Акцентируется внимание, что изучение способов обучения нейронной сети (псевдобиологического образования), позиционируемого как проистекающее на биологическом основании, становится средством построения считывающего устройства собственно самости, сообразной человеческому Я.

Ключевые слова: смысл, смысл текста, нейронные сети, работа нейронных сетей, информация, обработка информации.

Target setting. Modern society, positioned as information or aspiring to it, presents information as its basic, fundamental component. In our opinion, this is due to the fact that the latter (information) in the modern world acquires a role departing from an exclusively epistemological vector, modifying the strategic significance in the horizon of events of ontological reality.

In this light, the Internet can be represented as a large-scale storage of information data (we will not focus on reliability, doubletness, features of formal representation or anything else), borrowing the archetypal characteristics of the symbol lying at the origins of innate mental structures that make up the collective unconscious. Unfortunately, or fortunately, the knowledge based on

the Internet is not always stored in a computer-friendly form of databases; most often these are texts intended for human readings [5]. The latter is a significant problem due to the fact that the anthropocentrism of the perception of information, in particular — the text, seems to be an obstacle to the process of globalization, cosmopolitanization and others, which are nowadays the basic trends of modern society.

In this context, it seems interesting that in 2013, engineers at Google Corp. published a number of articles on the new model for solving a fairly well-studied problem — predicting the word according to its context in the text. The problem is well studied, for it there are a number of standard methods, but the publication of Google engineers differed in two features: first, to solve a similar problem, they used deep neural networks; Secondly, as a training information, a huge body of texts was updated, comparable to the volume of the English-language Wikipedia [11].

Note that, in the framework of individual studies conducted with the help of neural networks, in our opinion, bulkiness is an inaccessible constant, due to the fact that for the above developments it becomes the key to a greater degree of reliability of the result. This is due to the fact that the scale of the texts involved provides a "space for maneuver", which, due to the frequency of the "hot/cold" type, teaches the network the right choice of sense. If we talk about individual studies, with relatively modest volumes of factual material, which is more than common, then much more important are the criterial parameters of the input information, that is, texts. Thus, the choice of research material in this case is in direct connection with the specifics of its results, forecasting prospects and others.

Analysis of recent research and publications. Archetypical sense is unquestionable, due to its very nature: in this light, it (sense) is not just an archetype originating from the haze of the nameless, but threads that permeate this substance. The latter we postulate, because the sense, coming from the chaos (nonlinearity) of the unnamed brings the order to it, built according to the senseful fragments of the first.

Neural networks — this section of artificial intelligence, in which for the processing of signals using phenomena similar to those occurring in the neurons of living beings. The most important feature of neural networks, evidencing their wide capabilities and huge potential, is the parallel processing of data in the hardware implementation. In addition, with a large number of interneuronal connections, the network acquires resistance to errors that occur on certain lines [15, p. 7].

In our opinion, the work of such a network with the text is particularly interesting, in particular — with its senses, since success in this will precede the appearance of full-featured artificial intelligence (AI). However, it should be remembered that a significant breakthrough in this area should not be expected in the near future due to its relative underdevelopment. We are forced to postulate such a number of studies, which, despite obvious revolutionary nature, do not contain such important points from which the practices could be based: the clear architecture of neural networks, the dogmatic system of their learning, and the like.

Speaking about researchers dealing with neural network problems, it is worth mentioning such scientists as: N. Alefirenko, A. Alizar, A. Begojan, D. Vetrov, V. Voronin, Z. Dudar', L. Zhukov, M. Kovalev, Ju. Lifshic, Ju. Natochin, A. Rys'mjatova, T. Chernigovskaja, V. Tarasenko, O. Shevelev, D. Shuklin, E. Shhurevichand others.

The purpose of the article is to examine the features of the place and role of neural networks in comprehending the text. The subject — the specificity of the existence of this process is correlated with their work.

The statement of basic materials. As we have already mentioned, in recent years the activity of neural networks is directly connected with the phenomenon of AI, built on the basis of machine learning technologies of various search engines (from Google to Yandex), in particular, the neural network of the latter — Palekh. Thus, the above-mentioned neural network during training analyzes significant volumes of both positive and negative examples. Based on the results of training, a high probability of recognizing the given objects on any graphic images is achieved [6]. Here it is necessary to mention that this is the algorithm of any neural network, which, like a child, learns by trial and error, fixing the correct algorithm and avoiding inaccuracies committed in previous cycles. However, the main problem of constructing a training system for such networks immediately follows, namely: what examples will be most successful for their development.

Note that the neural network is an excellent tool for forecasting if we are going to proceed to the analysis of large and super-large training samples, which seems inevitable in the process of researching the sense of the text. The sense is not considered as a category of being, although the latter is, of course, so to say "by default", but as an aggregate of different-caliber sense, contextually and semantically motivated.

Thus, it is not just an abstract category of ontological reality, but an applied aspect of text analysis of any style, form, and so on. In this light, it should be noted that in practice for many problems we can type a sufficiently large number of objects for which we do not know the exact value of the hidden variable, but we know a subset of its possible values, as a rule, not very large [11].

The most clearly mentioned tendency can be traced on the features of the neural network Yandex–Palekh, which was mentioned earlier, when working with the algorithm with user requests instead of pictures using headings and texts on the pages of sites. At the same time, in the learning process, pairs "request-header" are used, which are used as a platform for "understanding" the neural network of sense between what the user is looking for and the inscription in the header of the text [6].

Similarly, the Palekh algorithm translates the text of the search phrase into a set of numbers. Simply put, the request and the text of the web page are placed in an identical coordinate space. This way of analyzing and processing search queries with subsequent comparison with possible answers is called "semantic vector". The latter identifies those pages that best respond to user requests. The semantic vector can work with low-frequency phrases and provides relevant pages for complex phrases from the "long tail". Even in the most

difficult case, when the query and the text do not contain identical words, the semantic vector will be able to match the search phrase and the web page with a search for a common sense [6].

Here it should be clarified that for each position in the text in the process of constructing a neural network training system, we in the training sample, that is, in the body of texts that were initially given to us or was selected, observe the specific occurrence of the word and know that each specific word can have One of some small number of senses. Thus, the hidden variable is strictly limited, that is, for each object the possible value of the hidden component is limited. But we do not know the concrete sense of the hidden component. Therefore, this problem can be considered as a learning task for poorly-spaced data and apply the Bayesian approach, which allows us to generalize the standard methods of machine learning [11].

Conclusions. Thus, the neural network is considered by us as a means of cognitive triangulation (localization) of sense, laid down in the text by means of pseudobiological education (neural network). This process occurs within the boundaries of the anthropocentric system, through the actualization of the human culture embedded in the product, the text, the intentions.

The latter is of an archetypal nature, because it is not merely symbolic from the beginning, but is something close to the primary unnamed chaos, while being the goal and result of human activity. In this light, the study of the methods of training a neural network (pseudobiological education), positioned as proceeding on a biological basis, becomes a means of constructing not only a reading device, but actually a self, conformable to the human self.

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